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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,367	09/29/2000	Yoshiaki Yokoyama	Yaguchi-0012	2186
22850	7590	02/09/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			RINEHART, KENNETH	
			ART UNIT	PAPER NUMBER
			3749	
DATE MAILED: 02/09/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 09/676,367	<b>Applicant(s)</b> YOKOYAMA ET AL.	
	<b>Examiner</b> Kenneth B. Rinehart	<b>Art Unit</b> 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 11, 12, 22, 30 and 32-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34 and 35 is/are allowed.
- 6) ☒ Claim(s) 1-6, 11, 12, 22, 30, 32, 33 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the structural cooperative relationship between the means for heating and the rest of the system, the hermetic zone and the rest of the system, means for introducing a heated residue to the hermetic zone and the rest of the apparatus, means for cooling the heated residue and the rest of the apparatus, halogen trapping means and the rest of the apparatus.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 11-12, 22, 32, 33, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mak et al in view of Melber et al (5595483). Mak et al discloses introducing

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the first soil to a hermetic zone (col. 2, line 29, 22, fig. 1), pumping out the hermetic zone to a vacuum state (col. 5, lines 51-68, col. 6, lines 1-3), thermally decomposing at least a part of the organic halides by heating the first soil under in the hermetic zone under the vacuum state (col. 5, lines 11-15, col. 5, lines 51-68, col. 6, lines 1-3), heating under a vacuum state a gaseous substance produced by the thermal decomposition of the organic halides, wherein a gaseous substance produced by the thermal decomposition is heated under a vacuum state (col. 4, lines 58-60).the organic halides are dioxins (col. 2, line 43), reducing the concentration of halogen contained in gases produced by the thermal decomposition of the soil (col. 3, lines 7-11), wherein a thermally decomposed residue of the first soil is cooled after the hermetic zone is purged by a purge gas which is substantially organic halide free and not capable of generating organic halides (col. 7, line 59, col. 9, lines 61-64, fig. 3), the purge gas contains at least one element selected from a group consisting of helium, neon, argon, krypton, xenon, nitrogen, and hydrogen (col. 7, line 59), wherein the thermally decomposing step is performed in the hermetic zone where an oxygen concentration is controlled (12, fig.1, col. 5, lines 51-68, col. 6, lines 1-3), the soil containing organic halides is thermally decomposed under a vacuum state (col. 5, lines 11-15, col. 5, lines 51-68, col. 6, lines 1-3), the concentration of halogen contained in gases produced by the thermal decomposition of soil is reduced (col. 3, lines 7-11), wherein an object to be treated containing organic halides is thermally decomposed under a vacuum state (col. 5, lines 11-15, col. 5, lines 51-68, col. 6, lines 1-3), means for heating the object (76, 78, 80, fig. 1), a hermetic zone (12, fig. 1), means for introducing a heated residue to the hermetic zone (22, fig. 1), means for purging the hermetic zone by a purge gas which is substantially organic halide free (126, fig. 1), means for cooling the heated residue (fig. 3), the heating means is a thermal

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decomposition furnace for thermally decomposing the object (12, fig. 1), wherein the heating means is a reduced pressure thermal decomposition furnace for thermally decomposing the object to be treated under reduced pressure (12, fig. 1), the purging means introduces the purge gas after the pressure in the hermetic zone is reduced (col. 5, lines 11-15, lines 26-29, 168, fig. 1), wherein a heated residue containing residual dioxins generated from waste disposal facilities and factories is treated while being heated under a vacuum state (col. 5, lines 11-15, col. 5, lines 51-68, col. 6, lines 1-3, 38, 16, fig. 1), a heating device configured to heat the soil (54, 56, fig. 1), a hermetic zone (16, fig. 1), an introducing device configured to introduce a heated residue of the soil from the heating device to the hermetic zone (22, fig. 1), a purging device configured to purge the hermetic zone by a purge gas which is substantially organic halide free (col. 5, lines 11-15, lines 26-29, 168, fig. 1), a first cooling device configured to cool the heated residue (fig. 3), wherein the heating device is a combustion furnace for performing combustion treatment for the soil (54, 56, fig. 1) wherein the heating device is a thermal decomposition furnace configured to perform thermal decomposition treatment for the soil (fig. 1, col. 5, lines 11-15), wherein the heating device is a reduced pressure thermal decomposition treatment for the soil (col. 5, lines 11-15, col. 5, lines 51-68, col. 6, lines 1-3,). Mak et al discloses applicant's invention substantially as claimed with the exception of using at least a vacuum pump, formed using at least a vacuum pump, formed using at least a vacuum pump, a vacuum pump configured to pump out the hermetic zone to a vacuum state, at an exhaust portion. Melber et al teaches using at least a vacuum pump (10c, fig. 1), formed using at least a vacuum pump (10 c, fig. 1), a vacuum pump configured to pump out the hermetic zone to a vacuum state (10c, fig. 1) for the purpose of providing a motive force to remove gases. It would have been obvious to one of ordinary skill in

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the art to modify Mak et al by including using at least a vacuum pump, formed using at least a vacuum pump, formed using at least a vacuum pump, a vacuum pump configured to pump out the hermetic zone to a vacuum state as taught by Melber et al for the purpose of providing a motive force to remove gases so that thermal treatment process will occur. Mak in view of Melbar discloses applicant's invention substantially as claimed with the exception of at an exhaust portion of the furnace. At the time the invention was made it would have been an obvious matter of design choice to a person of ordinary skill in the art to have at the exhaust portion of the furnace because applicant has not disclosed that provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either the location of Mak or the claimed location because both locations perform the same function equally well.

***Allowable Subject Matter***

Claims 34 and 35 are allowed.

Claim 30 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to removal processes in general: Campbell et al (5,650,127).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B. Rinehart whose telephone number is 571-272-4881. The examiner can normally be reached on 7:20 -4:20.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kbr

  
KENNETH RINEHART  
PRIMARY EXAMINER